REMARKS

Claims 1 to 10 are present in this application. Claims 3 and 4 have been withdrawn. Claims 1 and 2 are independent claims.

Statement of Interview, MPEP 713.04

Applicant agrees with the Examiner's Interview Summary Statement for the interview held February 18, 2009. In particular, it is Applicant's understanding that in order to anticipate the claimed invention, the cited reference must at least disclose a light-emitting diode as a flash light source and a non-volatile memory that stores correction information for light only of the light-emitting diode. It is Applicant's understanding that the Sakurada reference fails to teach at least these claimed elements, and that the rejection based on Sakurada will be withdrawn.

§ 102(b) Rejection – Sakurada

Claims 1 and 2 have been rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Application Publication 2002/0037167 (Sakurada). Applicant respectfully traverses this rejection.

The present application addresses a problem that a light-emitting diode emits light varied in color temperature among products, when a light emitting diode is used as a flash light source of a digital camera. Subsequently, a white balance correction result is varied among products (specification at page 1, lines 17-19). Thus the claimed invention is directed to "a digital camera having an electronic flash device using a light-emitting diode as a flash light source," as recited in claims 1 and 2.

> Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the recited functional limitations. RCA Corp. v. Applied Digital Data Sys., Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir.); cert. Dismissed, 468 U.S. 1228 (1984); W.L. Gore and Assoc., Inc. v. Garlock, Inc., 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983), cert. Denied, 469 U.S. 851 (1984).

Applicant submits that Sakurada fails to disclose at least the claimed "light-emitting diode as a flash light source," as recited in claims 1 and 2.

For at least this reasons, Applicant submits that the rejection fails to establish *prima facie* anticipation and must be withdrawn. Accordingly, Applicant requests that the rejection be reconsidered and withdrawn.

In addition, Applicant submits that Sakurada fails to disclose at least one other claimed element of claims 1 and 2.

Claim 1

In a digital camera of the present invention (e.g., Fig. 3), a digital signal processing circuit 48 includes a white balance correction circuit having multipliers 52R, 52G, and 52B for increasing or reducing the values of R, G, and B signals. The multipliers receive R, G, B signals and white balance correction values W_R, W_G, W_B and perform multiplication on the two inputs and output corrected R', G', B' signals to the gamma-correction circuit 54.

The white balance correction values W_R, W_G, W_B are obtained by a CPU 60 by determining a light source type (color temperature of a field), then determining the white balance correction values W_R, W_G, W_B based on the determined light source type. In particular, during normal shooting (i.e. without flash) the CPU discriminates a light source type such as day light, shade-cloudy, fluorescent light, tungsten lamp, etc. In addition, the white balance correction values W_R, W_G, W_B are obtained by making reference to a lookup table recorded in a ROM 74 (specification at page 9, bottom paragraph).

On the other hand, in the case of flash shooting using an electronic flash device, instead of determining a light source type, a white balance correction value W_0 corresponding to a reference color temperature of the flash light T_0 is used to perform white balance correction. The white balance correction value W_0 is stored in ROM 74.

The electronic flash device of the present claimed invention is a light emitting diode (LED). An LED product will emit light that varies in color temperature from other like products. Subsequently, the present invention additionally includes a white balance correction value W_1 suitable for the color temperature of light actually emitted from the LED product installed in the

digital camera, which is used in combination with the reference color temperature to perform white balance correction. (specification at page 10, paragraph at lines 19-23).

This aspect of the present invention is covered by claim 1, which recites:

A digital camera having an electronic flash device using a light-emitting diode as a flash light source, comprising:

a non-volatile memory which stores correction information for correcting white balance of an image obtained by flash shooting using the electronic flash device, the non-volatile memory storing the correction information that is set based on a detection result of a color temperature of light actually emitted from the electronic flash device, wherein the correction information is for the light only of said light-emitting diode; and

a white balance correcting device which corrects white balance of the image obtained by flash shooting using the electronic flash device based on the correction information stored in the non-volatile memory.

Sakurada

Sakurada is directed to a camera with a printer, in which a DC-to-DC converter provides a DC power supply for driving a flash light emitting device and a DC power for at least one of the recording head and the pumping motor of the printer, in order to obtain a compact size. (Abstract). The camera section A100 forms an ordinary digital camera (para. 0043).

A media pack C100 is provided with a non-volatile memory (EEPROM), which stores the kinds and remaining amounts of ink and print medium sheets, the date and time of refilling or producing the ink and print medium sheets, degrading information relating to characteristics of inks, history data including error data (para. 0045).

An image processing section performs image processing of the image data sent from the camera section including conversion of the data to an RGB signal, gamma correction according to characteristics of the camera, color correction and color conversion using a lookup table, and conversion of the RGB signal to a binary signal for printing. Sakurada discloses that the color correction data for performing color correction can be stored in the EEPROM (para. 0072). Sakurada discloses that a plurality of lookup tables for color correction can be stored and data for

selection of one of the tables to take into account a degree of degradation of consumable articles can be stored in the EEPROM. (para. 0085).

With regard to white-balance correction, Sakurada discloses that during an exposure operation a white-balance calibration, gamma correction, color correction and compression, are performed. (para. 0118).

Differences over Sakurada

Sakurada discloses an ordinary digital camera having a flash light-emitting device A103. However, Sakurada does not disclose a light-emitting diode as a flash light source. Furthermore, Sakurada's only mention of white-balance correction is that during an exposure operation a white-balance calibration is performed. Sakurada provides no specific information on the source of information used for the white-balance calibration.

Applicant submits that at least because Sakurada fails to disclose a light-emitting diode as a flash light source, Sakurada cannot teach the claimed feature that "the correction information is for the light only of said light-emitting diode."

Instead, because Sakurada indicates that the camera section is an ordinary digital camera, Applicant submits that Sakurada includes a conventional approach to white-balance calibration, which determines a white balance correction value upon shooting based on color temperature obtained from a captured image and normal correction values for the type of light source.

A conventional approach to white-balance correction is disclosed in the present specification. In the conventional approach, the CPU determines a light source type (color temperature) such as day light, shade-cloudy, fluorescent light, tungsten lamp, etc. (specification at paragraph bridging pages 8-9 and first paragraph at page 9). A table stored in ROM stores white balance correction values corresponding to each light source type (color temperature) (specification at last paragraph in page 9).

In other words, the conventional approach to white-balance correction uses a table of white balance correction values corresponding to each light source type.

Sakurada provides no indication that white balance correction values corresponding to the flash light source installed in the camera are stored based on light actually emitted from the

flash light source. Subsequently, Sakurada does not disclose performing color correction based on a correction value obtained according to light actually emitted from the electronic flash device of the digital camera.

Thus, Sakurada fails to disclose a storage device storing the correction information that is set based on a detection result of a color temperature of light actually emitted from the electronic flash device, wherein the correction information is for the light only of said light-emitting diode, and a white balance correcting device which corrects white balance of the image obtained by flash shooting using the electronic flash device based on the correction information stored in the non-volatile memory, as recited in claim 1.

For at least these additional reasons, Applicant submits that the rejection fails to establish *prima facie* anticipation for claim 1.

Claim 2

Claim 2 covers a further aspect wherein the white balance correction value W_1 is determined based on a stored reference white balance correction value W_0 and a stored modification value ΔW. A modifying device modifies the reference white balance correction value based on the modification value. (specification at page 11, first full paragraph).

Similar to the above for claim 1, Applicant submits that Sakurada does not disclose performing color correction based on a correction value obtained according to light emitted from the electronic flash device.

Thus, Sakurada does not disclose at least "a modification information storage device which stores modification information for correcting the correction information stored in the non-volatile memory, the modification information storage device storing the modification information required to make the correction information stored in the non-volatile memory coincident with correction information set based on a detection result of a color temperature of light actually emitted from the electronic flash device, a modifying device which modifies the correction information based on the modification information stored in the modification information storage device; and the white balance correcting device corrects the white balance of

the image obtained by flash shooting based on the correction information modified by the modifying device, as recited in claim 2.

For at least these reasons, Applicant submits that the rejection fails to establish *prima facie* anticipation for claim 2.

§ 103(a) Rejection – Sakurada, Kawakami

Claims 5-8 have been rejected under 35 U.S.C. §102(b) as being unpatentable over Sakurada in view of U.S. Patent 7,106,378 (Kawakami). Applicant respectfully traverses this rejection.

Applicant notes that U.S. Patent 7,106,378, having an issue date of September 12, 2006, which is after the filing date of the present application of January 20, 2004, is a prior art reference only under 35 U.S.C. §102(e). Also, U.S. Patent 7,106,378 was commonly owned by Fuji Photo Film Co., Ltd. at the time of filing the present application. Subsequently, Applicant submits that U.S. Patent 7,106,378 should be withdrawn as a prior art reference pursuant to **35 U.S.C. §103(c)**.

Kawakami discloses the conventional approach described above, in which a measurement of color temperature of the subject light is determined in order to select the light source type for which white balance correction values are obtained. As noted above, light source types can include day light, shade-cloudiness, fluorescent lamp, tungsten lamp, etc.

Kawakami does not discloses white balance correction values for the specific electronic flash device installed in the camera.

Applicant submits that Kawakami fails to make up for the above stated deficiencies in claims 1 and 2 in Sakurada, as well as fails to teach elements recited in claims 5-8.

Further with respect to claim 6, the Office Action states that outputs R', G', B' to the gamma correcting circuit 132 constitute the claimed "modification information." To the contrary, "modification information" of the present invention is an input to the modification device which modifies the correction information, and the white balance correcting device corrects the white balance based on the correction information modified by the modifying device, as required in claim 2.

For at least this additional reason, Applicant submits that the rejection fails to establish *prima facie* obviousness for claim 6.

§ 103(a) Rejection – Sakurada, Kawakami, Yamamoto

Claims 9 and 10 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Sakurada and Kawakami, and further in view of U.S. Patent 6,041,192 (Yamamoto). Applicant submits that **this rejection is clearly in error**; at least because **Yamamoto's LED 42b is NOT a flash device.**

Claims 1 and 2 define "correction information" as information that is "set based on a detection result of a color temperature of light actually emitted from the electronic flash device."

As noted above, conventional approaches to white balance correction refer to correction values that are for the type of light source of the subject image, not a specific light source installed in the camera. Light sources can include day light, shade-cloudiness, fluorescent lamp, tungsten lamp, etc. In the case of an LED installed as a flash light source, the conventional approach is also to determine the light source (color temperature) of the subject image, by a color temperature sensor, or by analysis of the captured image (as taught in Kawakami, as well as disclosed in the present specification).

The Office Action, again in error, refers to an LED 42b of main light source 42, and information codes 30Q which correspond to information such as data and time.

As stated previously by Applicant, the main light source of Yamamoto is NOT a flash device.

The main light source 42 is for reading an image recorded on an electro-developing recording medium 30. Figure 4 of Yamamoto shows the arrangement of main light source 42, and in particular LED 42b. According to Yamamoto, "...the main light source 42 is positioned so that lens 42c faces the upper end of the second recording area 30R" (col. 7, lines 10-13).

In particular, Yamamoto discloses,

> When an image recorded on the electro-developing recording medium 30 is read, the color filter 70 is fixed at a position to retreat from the support member 50, i.e.,

the side of the shutter 22, for example. In this state, each of the recording areas 30R, 30G, and 30B is moved between the light source 42 and the scanner optical system 43 in a direction perpendicular to the optical axis of the scanner optical system 43. Namely, the image recorded on the electro-developing recording medium 30 is illuminated by the light source 42 and formed on the light receiving surface of the line sensor 44, through an operation of the scanner optical system 43.

Thus, the rejection is in error and must be withdrawn.

CONCLUSION

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact **Robert Downs** Reg. No. 48,222 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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